Page 16. en la colomne de Jupiter pour le degré 83. lisez 101916. pour le degré 85. lisez 101914. Pour le degré 89. lisez 101716. pour le degré 91. lisez 10160. & pour le degré 98. lisez 101181.

Page 27. en la colomne de Mars , pour le degré 137. lisez 70166.

Page 27. en la colomne de Mercure pour le degré 115. lisez 33676.

Page 28. en la colomne de Saturne pour le degré 177. lisez 91819.

Page 31. en la colomne de l'Année 2. & pour le degré 170. de l'Anomalie, lisez 55. secondes.

Page 32. en la colomne de l'année 10. & pour le degré 110. de l'Anomalie , lisez 33. minutes pour 32.

Page 36. en la colomne des latitudes , pour la ville de Bruxelles , lisez 50. 41.

Page 37. Pour la ville de Bologne , lisez 44. 50. en la latitude , &c. en la distance des Méridiens.

Page 38. en la colomne des latitudes . lisez pour S. Sauueur 12. M. 47. & pour Tolouse 43. B. 13.

Page 39. en la colomne des paralaxes du Soleil : pour le Signe 4. & pour le Signe 8. lisez 323805.

Page 41. pour l'année 19. lisez 20. 5. 17. pour 29. 20. 11.

Page 42. en la marge dextre de la Tablette de la reduction de la Lune lisez 6. pour 26. & 27. pour 7

Page 42. en la colomne du Soleil. pour le degré 128. de l'Anomalie , lisez 25. secondes.

Page 49. Article 11 ligne 2. lisez de l'Article 10.

Page 50. Article 15. ligne 6. lisez de l'Article 11.

Page 52. lignes 1. & 2. lisez de vos deux Meridiens , en degrez minutes & secondes de l'Æquateur.

Page 53. Article 3. ligne 6. lisez du complement de la hauteur de l'Estoille.

Page 54. Article 6 ligne 3. lisez a 90. degrés du Nœud ascendant.

Page 56. Article 6. ligne derniere , lisez , & les distances itineraires.

ERRATA

THE
Longitude not found:
OR, AN
ANSWER
TO A
TREATISE,

Written

By *Henry Bond* Senior, shewing a way to
find the LONGITUDE

BY THE

Magnetical Inclinatory NEEDLE.

WHEREIN

Is proved, That the LONGITUDE is not, nor
cannot be found by the Magnetical Inclinatory
NEEDLE.

By *Peter Blackborrow*, Gent.

Licensed March 14. 167$\frac{7}{8}$. Ro. L'*Estrange*.

THE
PREFACE.

Hen I first met with Mr. Bond's Book, I was in good hope to have found the Work answerable to the Title, the Author being reputed (not without defert) skilful in Mathematical Learning: But when I found his Doctrine want Demonstration, (an Excellency in the Mathematicks above all other Sciences Inseparable, for what is Truth therein, may always be demonstrated to be so) I began to doubt that (instead of so useful a Discourse, as he pretended to) he might not only be deceived himself, but might also mislead others in the search thereof.

This made me take upon me the Examination

nation

nation of the *Work*, which I profess to
have done with that care and integrity,
which is necessary in such an *Undertaking*:
And I do unfeignedly declare, that I am sorry
(for the *Authors* sake) to find his *Propositions*
unsound, and his *Examples* incertain. But
let *Truth* be always *True*, the whole Founda-
tion of his *Work* is only an *Airy Imaginati-*
on, and the *Superstructure* is made up of
false *Suppositions*, and impossible *Conclusions*.

A short *Prospect* whereof I have inserted
here (for instant sake) from his own *Exam-*
ples, leaving the fuller *Demonstration* there-
of to the ensuing *Treatise*.

First, the *Author* pretends, that the Mag-
netical *Poles* are distant from the *Poles* of the
Earth, by an *Oblique Angle*; which *Angle* is
proved to be a false supposition, and cannot
be demonstrated upon the *Globe*. But if it
should be granted him, that the *Magnetick*
Pole were 8 d. 30 m. from the *Pole* of the
Earth, in the year 1580. then it is proved
that the *Magnetical Poles* are found to be so
by the *Variation* that was at *Vaygats*, and
London in the year 1580. So that the *Mag-*
netical *Pole* must be as various as the *Varia-*
tion;

tion; in regard it cannot be found without it. Then the Caroline Table being Calculated by the distance of the Magnetical Poles, from the Poles of the Earth, is useless, in regard it is proved, that the Magnetick Pole is as various as the Variation.

And in the next place the Author pretends to find, that the Magnetical Pole of the Meridian of London, is gone to the Eastwards from his Observation made at Ballasore; and here he produceth the Longitude by the Practical Part of the Mathematicks at Sea by Journal, to correct his Observations by the Inclinatory Needle. Mr. Bond begs the Question: Let the Angle W P N be 6 d. 00 m. that the Magnetical Meridian is gone to the Eastward, when it is proved to be 37 d. 59 m.

So likewise in the case of Cape Charles, and in the Straits of Magellan (and all places Westwards of the Meridian of the Lizard.) Mr. Bond begs the Question: Let S K P F represent the Meridian of the Lizard, which is 4 d. 12 m. to the Eastwards of the Magnetical Colure, as appears by his Demonstration, which Angle at Cape Charles, is found

to be above 50 d. and not 4 d. 12 m. and the Angle at the Straits at Magellan, is found to be above 38 d. 00 m. and not 4 d. 12 m. I have omited to put down Mr. Bond's Demonstration to prove his Errors, in regard it would produce many Cuts : but those that would be better satisfied, may take the same Method I used in the Case of Ballasore, where Mr. Bond says let the Angle WPN be 6 d. that the Magnetick Pole is gone from the Meridian of London; when the Angle is proved to be 37 d. 59 m.

And farther it is proved, where two places differing in Latitude, under one and the same Meridian of the Earth, that the Angle at the Pole doth alter, whereas all places, under one and the same Meridian, have one and the same Longitude.

And whereas Mr. Bond has altered the Meridian of the Azores, and has made London the Meridian, from whence Longitude shall begin at : Longitude 00 d. 00 m. It is proved from Mr. Bond's own Observation, that London should have Longitude. Then the Magnetical Inclinatory Needle is not in proportion to the Meridian of London, or

any

any certain Meridian of the Earth.

And last of all, the Author supposeth the Magnetical Poles in the Air, some small distance from the Earth, which (as he says) may be a great reason of the Motion of the Earth, and to that end, he has drawn his Spheres accordingly: But I have proved that Mr. Bond's Question between Ballasore and London, is to be demonstrated from the Globe of the Earth: So that all Questions that have the like Matter, have the like Demonstration: then why should we fancy the Magnetick Poles in the Air?

And farther I have added a small Treatise, proving by several Observations, and Demonstrations, that the Earth is the Center of the Starry Heaven; and that it has no Motion upon its Axis; and for any one to pretend the Earth to have a Motion from West to East, it is only imagination; for there is no Observation to prove it. I know there are many men of a contrary opinion; but I would have such men to produce Observation and Demonstration to prove the contrary.

I shall say no more in this place, but refer

to the Work it self; where if I have also erred, I shall gladly receive admonition from the Learned; but if I have not, I hope my Native Country will not take it unkindly, that I have discovered a dangerous Error, which (if followed, and relyed upon) would have been of fatal Consequence.

Peter Blackborrow.

THE
LONGITUDE
Not found by the
Inclinatory Needle.

*In Anſwer to Mr. Bonds first Queſtion, in
finding the Diſtance between London and
Vaygats ; and from thence to find the Di-
ſtance of the Magnetical Pole , from the
Pole of the Earth.*
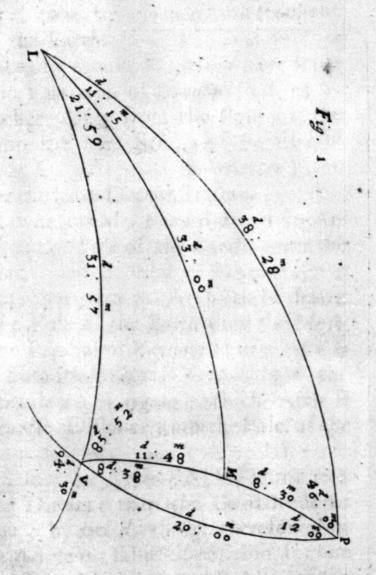
Ondon Latitude 51 *d.* 32 *m.* North,
London Longitude 00 *d.* 00 *m.*
Vaygats Latitude 70 *d.* 00 *m.*
North , Longitude 58 *d.* 00 *m.*
Weſtwards of the Meridian of *London*,
to find the Diſtance between *London* and
Vaygats L V, and the Angle P L V, and the
Angle P V L. In this Triangle we have
P L, the Co-latitude of *London* 38 *d.* 28 *m.*
and P V, the Co-latitude of *Vaygats* 20 *d.*

B   co m.
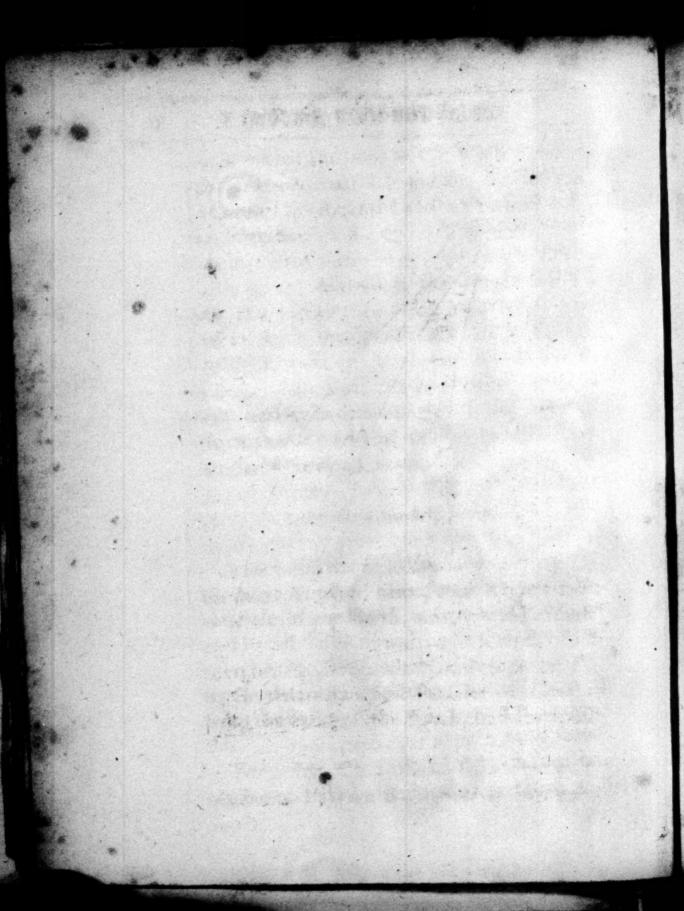
oo *m.* And the Angle L P V 58 *d.* oo *m.*
the difference of Longitude by Journal
between *Vaygats* and *London*; to find L V,
the Diſtance 31 *d.* 57 *m.* and the Angle
P L V, 33 *d.* 14 *m.* and the Angle P V L
94 *d.* 30 *m.* And from the Angle L P V,
Mr. *Bond* draws an Arch as P M V, and
makes that an Angle of 8 *d.* 38 *m* & the An-
gle P, M, V, L, an Angle of 85 *d.* 52 *m.*
and then Mr. *Bond* draws another Arch as
L M, and makes the Angle P L M, an An-
gle of 11 *d.* 15 *m.* and the Angle M L V, an
Angle of 21 *d.* 59 *m.*

Here place the firſt Figure.

If Mr. *Bond* would make it a proporti-
on in his Angle to draw two Arches from
the Pole of the Earth, unto the Meridian,
and Parallel of *Vaygats*; as P V, and P M V,
then he ſhould have drawn another Arch in-
to the Meridian and Parallel of *London*;
from the Pole of the Earth, beſides that of
P L.

For as Mr. *Bond* would ſeparate the Va-
riation of *Vaygats* 8 *d.* 38 *m.* from the An-
gle

Fig. 1

gle P V L 94 *d.* 30 *m.* and make the Angle P M V, 8 *d.* 38 *m.* and the Angles P M, V, L 85 *d.* 52 *m.* by another Arch from the Pole of the Earth.

So likewise should Mr. *Bond* have separated the Variation of *London* 11 *d.* 15 *m.* by another Arch from the Pole of the Earth into the Meridian, and Parallel of *London* at L, in regard the matter given requires the same Demonstration.

And whereas Mr. *Bond* draws two Arches from the Pole of the Earth, unto the Meridian, and Parallel of *Vaygats*; it is very improper, for no Arch can be drawn from the Pole of the Earth unto the Meridian, and Parallel of *Vaygats*; but what was drawn from the Pole, as P V 20 *d.* 00 *m.* the Co-latitude of *Vaygats*, which Arch is the nearest Distance unto the Pole of the Earth.

And for the Arch P M V, it makes a greater Distance than the Co-latitude of *Vaygats*, by 00 *d.* 18 *m.* therefore Mr. *Bonds* Angle is a false Supposition, for one and the same Meridian and Parallel of the Earth, can have but one Arch or Meridian

B 2　　　　　　　　from

from the Pole of the Earth, and that is the nearest Distance.
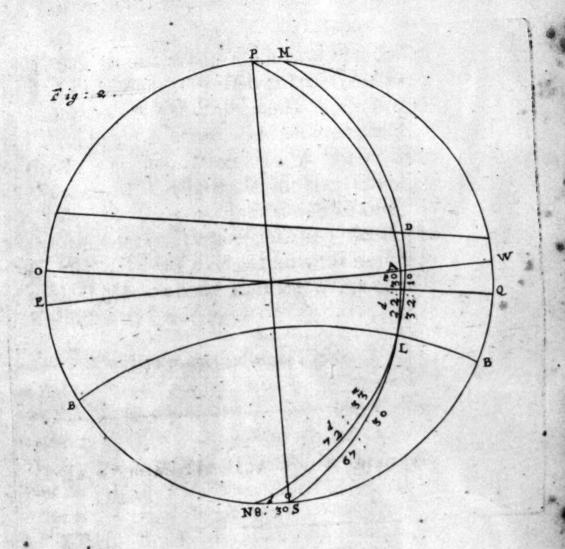
But Mr. *Bonds* pretence is to find the Distance of the Magnetical Poles, from the Pole of the Earth; and he saith, in the year 1580, the Variation was 11 *d.* 15 *m.* at *London*, and at *Vaygats* 8 *d.* 38 *m.* and the Co-latitude at *London* 38 *d.* 28 *m.* and the Co-latitude at *Vaygats* 20 *d.* 00 *m.* and the Difference of Longitude 58 *d.* 00 *m.* So from hence it may be observed, that the Distance of the Magnetical Pole, from the Pole of the Earth, is found, from the Variation that was at *London*, and *Vaygats* in the year 1580. So that the Magnetick Pole must be as various as the Variation, in regard it cannot be found without it.
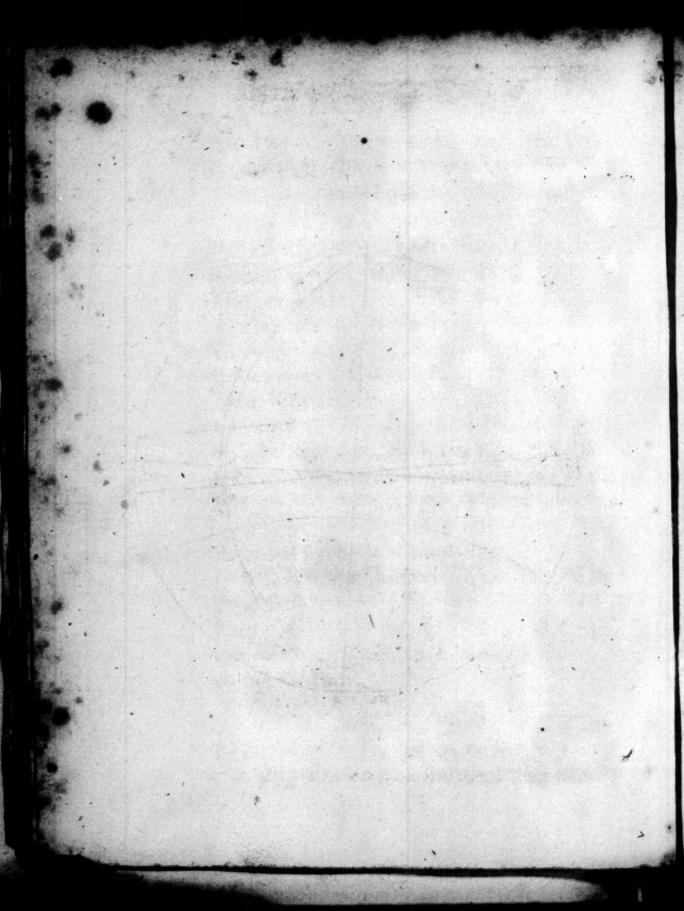
Mr. *Bond* had better to have begg'd the Question, let the Magnetical Poles be Distant 8 *d.* 30 *m.* from the Pole of the Earth: For his Angle cannot be demonstrated upon the Globe.

In

Fig: 2.

In *Answer unto Mr.* Bonds *Question, between* Ballasore *and* London.

I Sail from the Meridian and Parallel of London South-West-wards of *Good-hope*, and then North-East-wards into North Latitude 22 *d.* 30 *m.* the Magnetical Latitude or Inclination 32 *d.* 10 *m.* the Magnetical Co-latitude in the Caroline Table 72 *d.* 33 *m.* and the Distance of the Magnetical Pole from the Pole of the Earth 8 *d.* 30 *m.* I demand how far the Magnetical Meridian is East or West of the Meridian of *London?*

Here place the second Figure.

To Demonstrate this Sphere upon the Globe.

THe Brass Meridian, in which the Globe moves, is the Meridian of *London*; so bring any Meridian upon the Globe

Globe to the Brass Meridian; and from the Poles make a Mark upon the Meridian of the Globe, just under 8 *d.* 30 *m.* of the Brass Meridian, for the Magnetick Pole. So take 72 *d.* 33 *m.* the Magnetick Pole Distant from the Parallel of 22 *d.* 30 *m.* No Latitude from the Equator; and fix one point of your Compasses in the Magnetical Pole 8 *d.* 30 *m.* turning the Globe Eastwards, until 72 *d.* 33 *m.* will cut in the Parallel of *Ballasore* 22 *d.* 30 *m.* just under the Brass Meridian of the Globe, so make a Mark, and let the Globe stand, then is L N the Magnetick Pole Distant from the Meridian of *London* 72 *d.* 33 *m.* and L S is the Co-latitude of *Ballasore* 67 *d.* 30 *m.* and N S is the Distance of the Magnetical Pole, from the Pole of the Earth 8 *d.* 30 *m.* and the Angle L S N, is what the Magnetick Meridian is gone from the Brass Meridian, or the Meridian of *London*, and I D is the Magnetick Latitude 32 *d.* 10 *m.* and L A is the Latitude of *Ballasore* 22 *d.* 30 *m.*

By this Demonstration you may see the Distance of the Magnetick Poles, and the Mag-

Magnetick Co-latitude, and the Co-lati-
tude of the Place will hold their De-
monstrations in Proportion to the Poles of
the Earth; then why should we fancy the
Magnetick Poles in the Air?

Upon the Sphere M, Q, N, O is the Me-
ridian of the Magnetick Poles, and Q O
is the Magnetick Equator, and E W is the
Equator to the Poles of the Earth, and
M L N is the Magnetick Meridian, crossing
the Brass Meridian, or the Meridian of
London, in the Parallel of 22 *d*. 30 *m*. So is
S N the Magnetick Pole Distant from the
Poles of the Earth, and L S is the Co-la-
titude of *Ballasore*, and N L is the Magne-
tick Pole Distant from the Meridian of
London 72 *d*. 33 *m*. in the Parallel of 22 *d*.
30 *m*. and S L P is the Meridian of *London*,
and not the Meridian of *Ballasore*, yet I
place L in the Parallel of *Ballasore*, in the
Meridian of *London*, in regard I did take the
Inclination of the Inclinatory Needle in
that Parallel.
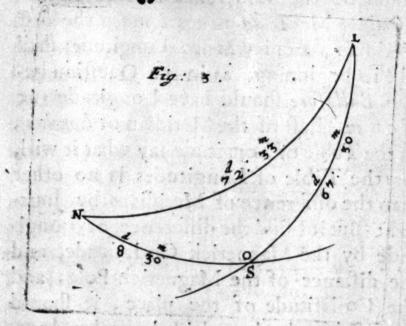
For it is supposed, if I would find the
Difference of Longitude from *London*; I
have Sailed into unknown Parts, and ob-
serve

ſerve and find my Latitude, and my Mag-
netick Latitude ; and now I would find
how far I am Eaſt or Weſt of the Meridi-
an of *London* : So I ought not to ſay S L P,
is the Meridian of *Ballaſore* , in regard I
am to find it ; but to make S L P the Me-
ridian of *London*, from whence I came ; ſo
the Magnetick Co-latitude will be in pro-
portion to what the Magnetick Meridian
I am in , is from the Meridian of *Lon-
don*.

So is L S the Co-latitude of *Ballaſore*
67 *d*. 30 *m*. in the Meridian of *London*;
and S N, the Diſtance of the Magnetick
Pole, from the Pole of the Earth 8 *d*. 30
m. And L N is the Magnetick Co-lati-
tude 72 *d*. 33 *m*. Now the Angle at the
Pole N S L, will be found 125 *d*. 00
m. that the Magnetick Meridian of *Bal-
laſore* is, from the Meridian of *Lon-don*
Eaſtwards, which ſhould be the Magnetick
Meridian of *Ballaſore* at B, from the Me-
ridian of *London* L, the complement of
125 *d*. 00 *m*. out of 180 *d*. is the Angle
A S W 55 *d*. 00 *m*. that the Magnetick Me-
ridian is Weſt of the Meridian of *London*.

The

The Angle is drawn from the Sphere :
the Work follows.

Fig: 3.

	d.	m.	
LN,	72	33	
NS, the *residuum* Sine	08	30	083029
SL, the *residuum* Sine	67	30	003438
The Sum of the fides	148	33	
The half Sum	74	16½	
The Sine of the first difference	65	56	995993
The Sine of the second difference	6	46	907124
The Sum			1989584
The half Sum			994792

C   994792

994792 the sine thereof is 62 *d*. 30 *m*.
the double thereof is 125 *d*. 00 *m*. the An-
gle at the Pole of the Earth N S L, which
should be the Difference of Longitude:
But since Mr. *Bond* makes *London* the first
Meridian, from whence Longitude shall
take its beginning, as in the Question be-
fore, *Ballasore* should have Longitude 125
d. 00 *m*. East of the Meridian of *London*;
let the Table of Longitude say what it will,
for the Table of Longitudes is no other
than the difference of Meridians by Jour-
nal: But if I find the difference of Longi-
tude by the Magnetick Co-latitude, and
the distance of the Magnetick Pole, and
the Co-latitude of the place, it should
correct what has been laid down by Jour-
nal; for I do not take what has been laid
down by Journal to be true, in regard
there is no certain Observation to lead us
to it: For if *London* be not the Meridian,
from whence the Magnetick Co-latitude
takes its beginning towards the Magnetick
Poles; then the distance of the Magnetick
Meridian from the Meridian of *London*,
cannot give the difference of Meridians.

Mr.

Mr. *Bond's* way to prove what the Magnetick Meridian is gone to the Eastwards, is thus : First, he knows his Magnetick Co-latitude at *Ballasore*, and the Co-latitude of the place, and the distance of the Magnetick Pole ; and so finds the distance of the Magnetick Meridian, from the Meridian of *London* 125 *d*. 00 *m*. so then finding 125 *d*. 00 *m*. doth not answer the Longitude by Journal ; he proceeds to find what the Magnetick Meridian is gone to the Eastwards : thus, he gives the Co-latitude, and the distance of the Magnetick Pole, and the Longitude by Journal 119 *d*. 12 *m*. and to this he adds 6 *d*. which makes 125 *d*. 12 *m*. the distance of the Magnetick Meridian, to find the Magnetick Co-latitude : This is but turning the Question.

So that you must know your Longitude by Journal 119 *d*. 12 *m*. before you can find what the Magnetick Meridian is gone to the Eastwards.

Mr. *Bond's* way is thus : Substract 119 *d*. 12 *m*. the Longitude by Journal, from 125 *d*. 12 *m*. the distance of the Magne-

tick Meridian, from the Meridian of *London*, and you have 6 *d.* 00 *m.* that the Magnetick Meridian is gone to the Eastwards: So by this Mr. *Bond* produced the Longitude by Journal, to correct the distance of the Magnetick Meridian, from the Meridian of *London*.

Mr. *Bond* must know that Longitude by Journal in all the World is laid down by Judgement; and then how rare is it for any one man, who hath been at any one Port in the World, somewhat remote, that hath found it in the very same Meridian, in regard of the many accidents that attend the Practical part of the Mathematicks at Sea?

And then how is it possible to know the Longitude I am in, by the distance of the Magnetick Meridian? If I must first know the Longitude by Journal, which I cannot prove to be certain, and so correct the Observation by it, so that by this way of practice, the Inclinatory Needle is of no use; for the Magnetick Latitude, with the other proportions before, should give the Longitude without the help

of

of a Journal to correct his Observation.

The next thing we are further to consider of is, how Mr. *Bond* finds what the Magnetick Meridian is gone to the Eastwards of *Ballasore.*
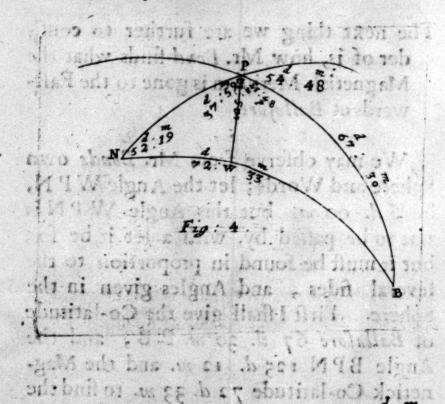
We may observe from Mr. *Bonds* own Sphere and Words; let the Angle W P N, be 6 *d.* 00 *m.* but this Angle W P N is not to be passed by, with a let it be so; but it must be found in proportion to the several sides, and Angles given in the Sphere. First I shall give the Co-latitude of *Ballasore* 67 *d.* 30 *m.* P B, and the Angle B P N 125 *d.* 12 *m.* and the Magnetick Co-latitude 72 *d.* 33 *m.* to find the Angle P N B.

Now

Now to find the Angle PNB.

Fig : 4
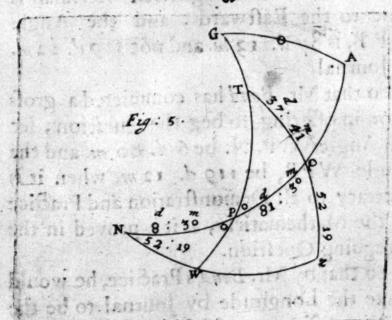
		d.	m.
As the Sine of the side	N B, 997953	72	33
Is to the Sine of the Angle NPB,	991229	54	48
So is the Sine of the Side P B,	996561	67	30
To the Sine of the Angle PNB,	989837	52	19

So the Angle P N B, is found to be 52 d. 19 m.

Now

Now let fall the Perpendicular in the foregoing Angle, as P W; so with the Angle W N P 52 d. 19 m. and the side P N 8 d. 30 m. we are to find the Angle W P N, which Mr. *Bond* saith, let it be 6 d. 00 m.

The Work follows.

Fig: 5.

		d.	m.	
As the Sine of	P Q,	81	30	— 999520
Is to the Tangent of	Q T,	37	41	— 988785
So is the Radius	P A,	90	00	— 1000000
To the Tangent of	A. g.	37	59	— 989265

So that A. g. 37 d. 59 m. is equal to the Angle A. P. g. or to the Angle W P N, 37 d. 59 m. demanded.

Now

Now in the foregoing Angle, substract
the Angle W P N, 37 *d.* 59 *m.* out of the
Angle N P B 125 *d.* 12 *m.* and you have
the Angle W P B, 87 *d.* 13 *m.*
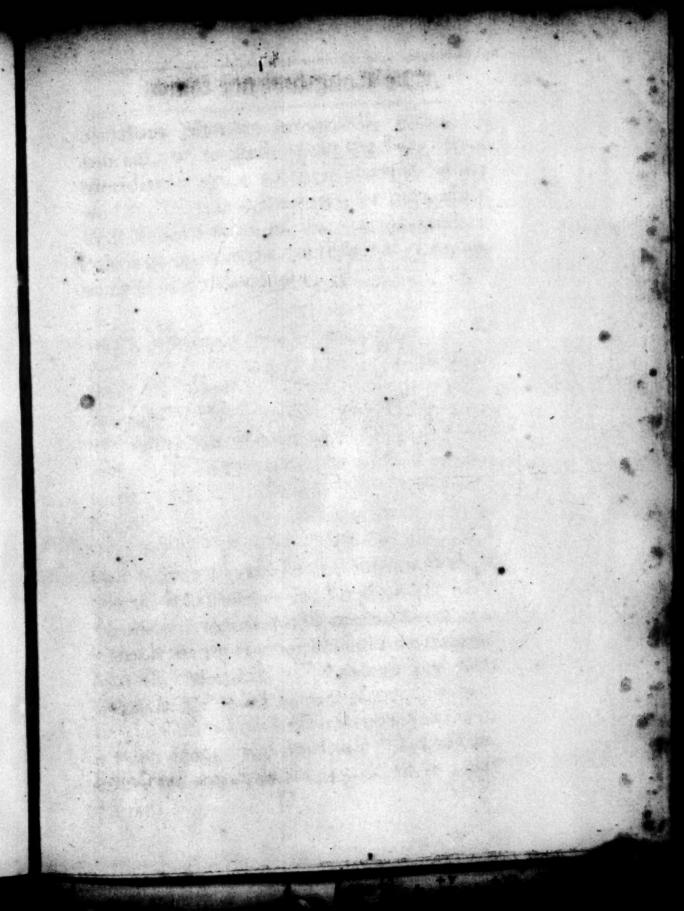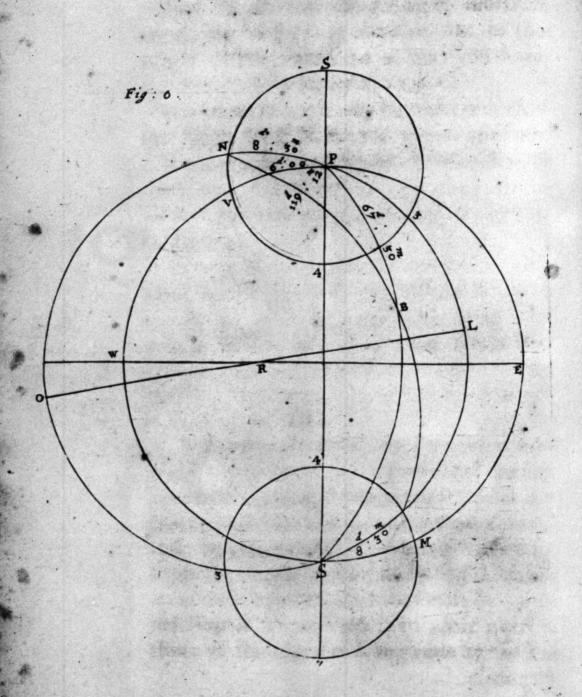
And from hence it may be observed, that
the Angle W P N, is 37 *d.* 59 *m.* and not
6 *d.* 00 *m.* that the Magnetick Meridian is
gone to the Eastward, and the Angle
W P B, is 87 *d.* 13 *m.* and not 119 *d.* 12 *m.*
by Journal.

So that Mr. *Bond* has committed a gross
error in offering to beg the Question; let
the Angle W. P. N. be 6 *d.* 00 *m.* and the
Angle W P B, be 119 *d.* 12 *m.* when it is
contrary to all Demonstration and Practice
in the Mathematicks, as it is proved in the
foregoing Question.

So that by Mr. *Bond's* Practice, he would
make the Longitude by Journal to be the
certain difference of Meridians, since he
corrects his Observation, from the Longi-
tude by Journal, by substracting 6 *d.* 00 *m.*
from the Angle at the Pole 125 *d.* 12 *m.*
to make it equal to the Longitude by Jour-
nal 119 *d.* 12 *m.* and then what need is
there of finding the Longitude by the In-
clinatory

Fig: 6

S

N 8 : 50
6 . 00
V
4

P
67
50 m
B
L

W
O
R
E

4

4
8 : 30 M
3
S
7

clinatory Needle, when it is found by Journal, or to find what the Magnetick Meridian is gone to the Eastwards, when we have it by imagination; let the Angle W P N be 6 *d*. 00 *m*. that the Magnetick Pole is gone from the Meridian of *London*, when it is 37 *d*. 59 *m*.

The Sphere on the other side, is according to Mr. Bonds *own Demonstration, to prove the foregoing Work.*

Here place the Sixth Figure.

And before I proceed any further, I shall make one Observation between the Meridian of *London* and *Bourdeaux*. *Bourdeaux* being but 20 Minutes Eastwards of the Meridian of *London*: See Mr. *Bonds* Tables of Longitude.

The Magnetical Latitude 69 *d*. 26 *m*. *Bourdeaux* Latitude N° 45 *d*. 10 *m*. the

D   Mag-

Magnetick Co-latitude 36 d. 54 m. the distance of the Magnetick Pole, from the Pole of the Earth 8 d. 30 m. to find the Angle of the Pole of the Earth.
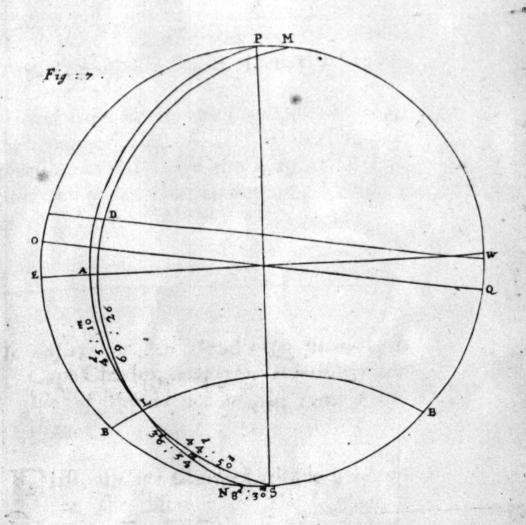
The Demonstration of this Sphere upon the Globe, is according to my former.

Here place the seventh Figure.

	d.	m.	
N L,	36	54	
S N, the *residuum* Sine	08	38	083029
L S, the *residuum* Sine	44	50	015178
The Sum of the Sides	90	14	
The half Sum of the Sides	45	07	
The Sine of the first Difference	36	37	977558
The Sine of the second Difference	00	17	769417
The Sum			1845182
The Sine of the half Sum	09	41	922591

Which 9 d. 41 m. being doubled, you have 19 d. 22 m. for the Angle at the Pole of

Fig : 7 .

of the Earth, then substract 6 *d*. from it, as in the case of *Ballasore*, *Bourdeaux* being Eastward of the Meridian of *London*, and you have 13 *d*. 22 *m*. for the difference of Longitude, between *London* and *Bourdeaux*, which is 13 *d*. 00 *m*. more than the truth by Journal. See in Mr. *Bonds* Tables of Longitude.

And from hence you may observe, that the Magnetical Needle , or Inclinatory Needle, cannot give the Magnetical Latitude in proportion to any one Meridian of the Earth.

In Answer to Mr. Bond's *Question, upon* Cape Charles, *comparing it with the new* Isle *of* Providence *in the same Meridian.*

First, of *Cape Charles* Latitude 37 *d*. 39 *m*. the distance of the Magnetick Pole, from the Pole of the Earth 8 *d*. 30 *m*. the Magnetick Co-latitude 49 *d*. 18 *m*.

to

to find how far the Magnetick Meridians
are East and West of the Meridian of
London.

*The Demonstration of this Question
upon the Globe, is the same way as
in the first Question.*

Here place the eighth Figure.
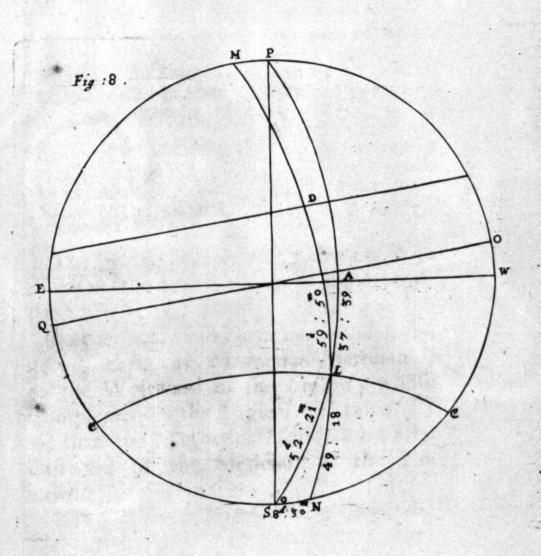
M Q N O, is the Meridian of the Mag-
netick Pole, and S N is the distance of
the Magnetick Pole, from the Pole of the
Earth 8 *d.* 20 *m.* and L S, is the Co-lati-
tude, 52 *d.* 21 *m.* And L N is the Mag-
netick Co-latitude 49 *d.* 18 *m.*
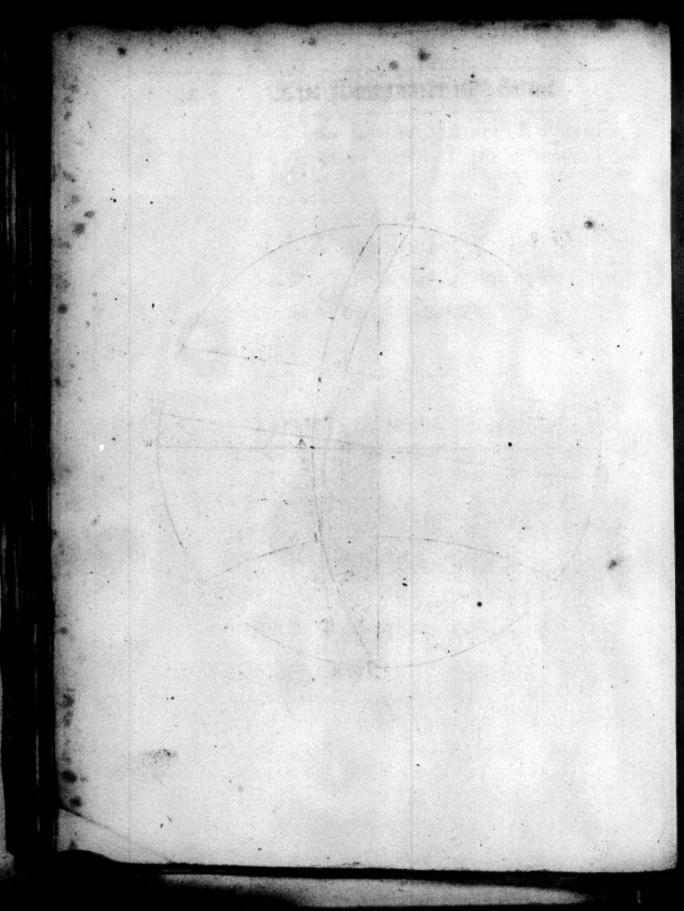
The Work follows.

N L,

Fig :8 .

M P

D

O

W

A

E

d
59 . 50

37 . 59

Q

L

G

t
52 . 21

49 . 18

C

S 8 . 30 N

	d.	m.	
N L,	49	18	
S N, the *residuum* Sine of	08	30	083029
L S the *residuum* Sine of	52	21	010140
The Sum of the Sides	110	09	
The Sine of the half Sum	055	04¹	991371
The side opposite to the Angle, substract	49	18	
The Sine of the Difference	05	46	900206
The Sum of all			1984746
The Sine of the half Sum	57	02	992373

The Complement of 57 *d.* 02 *m.* is 32
d. 58 *m.* the double thereof is 65 *d.* 56 *m.*
the Angle N S L.

So the Angle L S N, being found 65 *d.*
56 *m.* that the Magnetick Meridian is
to the Westward of the *Lizard*, whose
Complement is the Angle L S C 114 *d.* 04
m. that the Magnetick Meridian is to the
Eastward of the Meridian of the *Li-*
zard.

But I observe the Co-latitude of the
Magnetick Pole in its proportions, does
not make out the Longitude in Mr. *Bonds*
Tables to the Meridian of *London* by 04 *d.*
4 *m.* But, I suppose, Mr. *Bond* did make
choice

choice of the Meridian of the *Lizard* to be the Meridian in propotion to the Magnetical Co-latitude at *Cape Charles*, in regard the Magnetical Co-latitude at *Cape Charles*, would not give the Magnetical Meridian in proportion to the Meridian of *London*. And here we are to obferve, if the Magnetical Co-latitude, with the other proportions, in one and the fame Meridian of the Earth, will not give the fame Angle at the Pole in all Parallels, that crofs that Meridian, then the Inclinatory Needle cannot perform the Work of finding the Longitude, in regard you cannot tell where to find the Magnetical Meridian, in proportion to any one Meridian of the Earth.

Now we are to prove, that the Angle at the Pole does alter in one and the fame Meridian of the Earth, from Mr. B*onds* Obfervations by the Inclinatory Needle, when according to truth every Meridian keeps its Longitude from the Poles in all Parallel.

Cape

Cape Charles, and the New Iſland of *Providence*, are both under one and the ſame Meridian. See Mr. *Bonds* Tables of Longitude 70 *d*. 00 *m*. Weſtward of the Meridian of *London*.

Now ſuppoſe I was at the new Iſland of *Providence*, and ſhould obſerve and find it in the Latitude of 25 *d*. 25 *m*. N°. and ſhould find the inclination of the Inclinatory Needle 48 *d*. 39 *m*. and in the Caroline Table, the Magnetick Co-latitude 60 *d*. 24 *m*. and the Magnetick Pole diſtant from the Pole of the Earth 8 *d*. 30 *m*. to find the Angle at the Pole of the Earth L S N.

Figure 9.

Fig: 9

	d.	m.	
L N,	60	24	
S L, the *residuum* Sine of	64	35	004421
N S, the *residuum* Sine of	08	30	083029
The Sum of the Sides	133	29	
The Sine of the half Sum	66	44½	996316
The Side oppofite to the Angle, fubftract	60	24	
The Sine of the difference	06	20½	904264
The Sum			1988028
The Sine of the half Sum	60	36	994014

The Complement of 60 *d*, 36 *m*. is 29 *d*. 24 *m*. the double thereof is 58 *d*. 48 *m*. for the Angle at the Pole of the Earth L S N.   Now

Now substract 58 *d.* 48 *m.* the Angle at the Pole, that the Magnetick Meridian of *New Providence* makes with the Meridian of the *Lizard*, from 65 *d.* 56 *m.* the Angle at the Pole, that the Magnetical Meridian of *Cape Charles*, makes with the Meridian of the *Lizard*, and you have 07 *d.* 08 *m.* that the Magnetical Meridians or Angles at the Pole do differ in the same Meridian of *Cape Charles*, when according to truth every Meridian keeps its Longitude from the Poles of the Earth in all Parallels.

So that the Magnetical Co-latitude under one and the same Meridian of the Earth, doth alter the Angles at the Pole, and then the Magnetick Co-latitude, under one and the same Meridian of the Earth, is not in proportion to the Meridian of the *Lizard*, or any certain Meridian of the Earth.

E   *Another*

Another Observation between London *and* Amsterdam, *comparing it with* Antwerp, *being in the same Meridian of* Amsterdam. *See Mr.* Bonds *Tables of Longitude* 4 d. 37 m. *Eastward of the Meridian of* London.
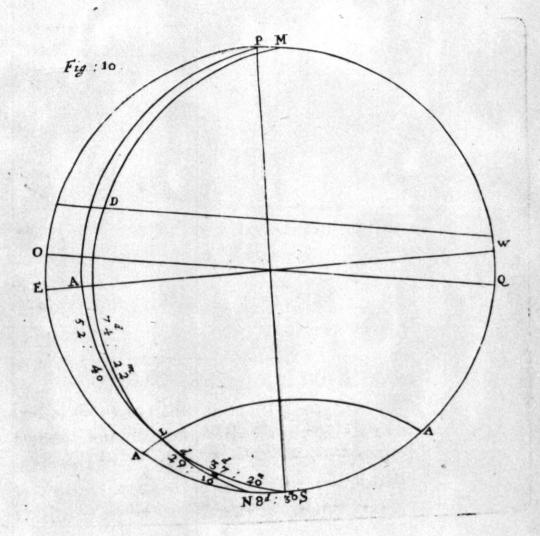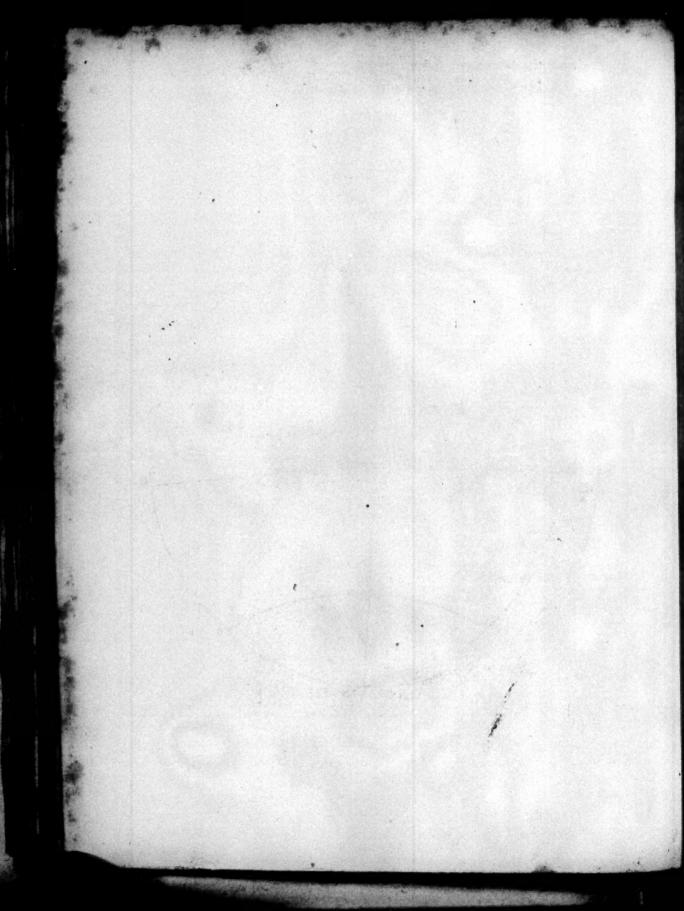
AMsterdam Latitude 52 d. 40 m. the Magnetick Latitude 74 d. 22 m. and in the Caroline Table the Magnetick Co-latitude is 29 d. 16 m. and the distance of the Magnetick Pole, from the Pole of the Earth 8 d. 30 m. to find the Angle of the Pole of the Earth.

Here place the tenth Figure.

LS, the Co-latitude of *Amsterdam*, and NL, the Magnetick Colatitude, and SN is the distance of the Magnetick Pole, from the Pole of the Earth.

Now suppose I was at *Amsterdam*, and should observe and find it in the Latitude of

Fig : 10

of 52 *d.* 40 *m.* and should find the Incli-
nation or Magnetick Latitude 74 *d.* 22 *m.*
and in the Caroline Table, the Magne-
tick Co-latitude to be 29 *d.* 16 *m.* And
the Magnetick Pole diſtant from the Pole
of the Earth 8 *d.* 30 *m.* So that by the fol-
lowing Work, I find the Angle of the Pole
of the Earth to be 16 *d.* 30 *m.* then we
are to ſubſtract 6 *d.* 00 *m.* as in the caſe of
Ballaſore, that the Magnetick Meridian (as
Mr. *Bond* ſaith) is gone to the Eaſtward,
and there remains 10 *d.* 30 *m.* for the dif-
ference of Longitude betwen *London* and
Amſterdam : Whereas in Mr. *Bonds* Ta-
bles of Longitude he makes but 4 *d.* 37 *m.*
Longitude Eaſtward of the Meridian of
London, which being ſubſtracted out of
10 *d.* 30 *d.* there remains 5 *d.* 53 *m.* over
and above the difference of Longitude be-
tween *London* and *Amſterdam* : So that the
inclination of the Inclinatory Needle,
with his Co-latitude, is not in proportion
to the Meridian of *London,* or any certain
Meridian of the Earth.

E 2   LN.
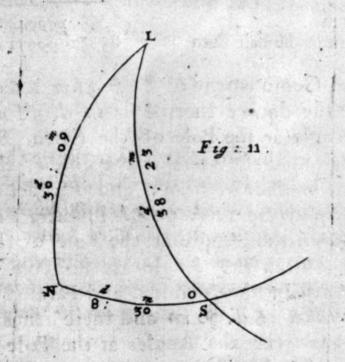
	d.	m.	
L N,	29	16	
S N, the *residuum* Sine	08	30	083029
S L, the *residuum* Sine	37	20	021720
The Sum of the sides	75	06	
The Sine the half Sum	37	33	978494
The Side of opposite substract	29	16	
The Sine of the difference	08	17	915856
The Sum			1999099
The Sine of the half Sum	81	45	999549

The Complement of 81 *d.* 45 *m.* is 8. *d.*
15 *m.* the double thereof is 16 *d.* 30 *m.*
for the Angle at the Pole of the Earth ; and
we are further to prove, that the inclina-
tion of the Inclinatory Needle with his
Co-latitude at *Amsterdam* and *Antwerp* do
alter the Angles at the Pole, although
these two places are under one and the
same Meridian of the Earth, when accord-
ing unto truth the Angles at the Pole of
the Earth should be the same, when you are
under one and the same Meridian of the
Earth.

Antwerp

Antwerp Latitude 51 *d.* 37 *m.* N° the Magnetick Latitude, or Inclination 73 *d.* 48 *m.* N° the Magnetick Co-latitude in the Caroline Table 30 *d.* 09 *m.* the distance of the Magnetick Pole, from the Pole of the Earth 08 *d.* 30 *m.* to find the Angle at the Pole of the Earth.

Fig : 11

L N,

	d.	m.	
L N,	30	09	
S N, the *refiduum* Sine	38	23	020696
S L, the *refiduum* Sine	08	30	083029
The Sum of the Sides	77	02	
The Sine of the half Sum	38	31	979430
The Side opposite fubftract	30	09	
The Sine of the difference	08	22	916288
The Sum			1999443
The Sine of the half Sum	83	31	999721½

The Complement of 83 *d.* 31 *m.* is 6 *d.*
29 *m.* the double thereof is 12 *d.* 58 *m.*
the Angle at the Pole of the Earth. So
having found the Angle at the Pole of the
Earth, in the Meridian and Parallel of
A*ntwerp* to be 12 *d.* 58 *m.* I fubftract 12
d. 58 *m.* the Angle at the Pole of the
Earth, from the Angle at the Pole of
the Earth in the Meridian and Parallel of
A*mfterdam* 16 *d.* 30 *m.* and there remains
3 *d.* 32 *m.* that the Angles at the Pole of
of the Earth differ under one and the
fame Meridian of the Earth. For as all
places under one and the fame Parallel of
the Earth, are in one and the fame Latitude,

fo
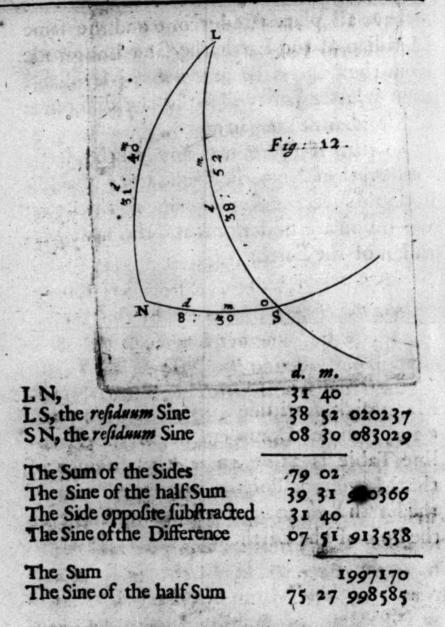
so have all places under one and the same
Meridian of the Earth, the same Longitude
from the *Azores*, or any other-Meridian,
from whence you will make the difference
of Meridians to begin at.

So that if there was any truth in the
Observation, from the Inclinatory Needle,
it should give the Angles alike at the Pole;
when you are under one and the same Me-
ridian of the Earth.

Portsmouth Latitude 51 *d.* o8 *m.* N°. the
Magnetick Latitude, or inclination 72 *d.*
52 *m.* whose Complement in the Caro-
line Table is 31 *d.* 40 *m.* the distance of
the Magnetick Poles, from the Poles of
the Earth 8 *d.* 20 *m.* to find the Angle at
the Pole of the Earth.

Figure

Fig: 12.

		d.	m.
L N,		31	40
L S, the *residuum* Sine		38	52	020237
S N, the *residuum* Sine		08	30	083029

	d.	m.	
The Sum of the Sides	79	02	
The Sine of the half Sum	39	31	990366
The Side opposite substracted	31	40	
The Sine of the Difference	07	51	913538

The Sum		1997170
The Sine of the half Sum	75 27	998585

The Complement of 75 *d.* 27 *m.* is 14
d. 33 *m.* the double thereof is 29 *d.* 6 *m.*
the

the Angle at the Pole of the Earth, so the
Angle at the Pole of the Earth is found to
be 29 *d*. 6 *m*. So I add 4 *d*. 12 *m*. as in
the Case of *Cape Charles*. *Portsmouth* be-
ing West of the Meridian of *London*, and
it gives me 33 *d*. 18 *m*. the difference of
Longitude between the Meridian of *Lon-
don*, and *Portsmouth*. And Mr. *Bond* makes
but 01 *d*. 00 *m*. for the difference of their
Meridians. See his Tables.

Lastly, we may observe from Mr. *Bonds*
Observation taken in *London* by the Incli-
natory Needle, whether *London* be the Me-
ridian, from whence the Magnetical Lati-
tude or Inclination, with the Co-latitude
in the *Caroline* Table, and the Co-latitude
of *London*, with the distance of the Mag-
netick Pole, from the Pole of the Earth,
will give *London* to be the Meridian, from
whence the Magnetick Co-latitude, with
the other proportions, shall give the An-
gle at the Pole of the Earth, to be 6 *d*.
00 *m*. that the Magnetick Pole is, from
the Meridian of *London* Eastwards, as
Mr. *Bonds* saith in the case of *Ballasore*.
But if the Angle appear to be more or less
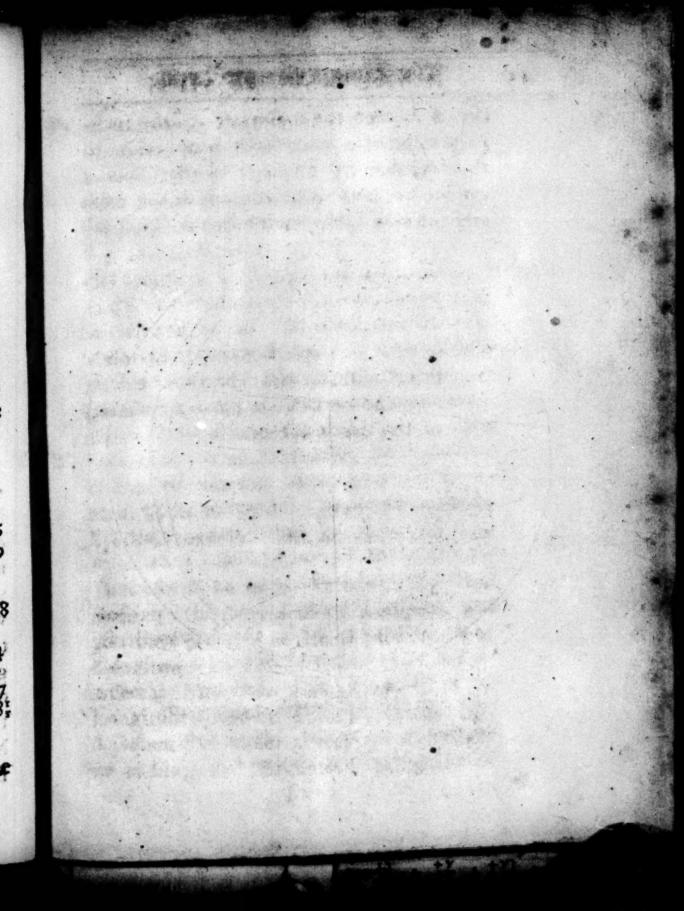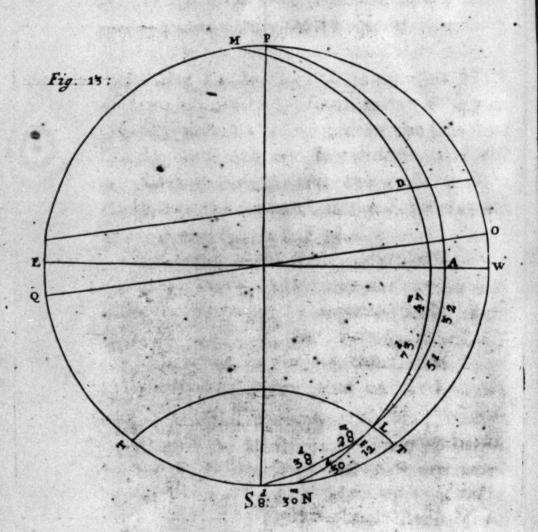
F   than

than 6 *d.* then the Inclination of the Inclinatory Needle, is not in proportion to the Meridian of *London*; so that *London* cannot be said to be the Meridian, from whence Longitude shall begin at.

London Latitude 51 *d,* 32 *m,* the Magnetick Latitude or Inclination 73 *d.* 47 *m.* the Magnetick Co-latitude in the Caroline Table 30 *d.* 11 *m.* the distance of the Magnetick Pole, from the Pole of the Earth 8 *d.* 39 *m.* to find the Angle at the Pole of the Earth. I. S N.

	d.	m.	
N L,	30	11	
S L, the *residuum* Sine of	38	28	020616
N S, the *residuum* Sine of	08	30	083029
The Sum of the Sides	77	09	
The half Sum, the Sine	38	34½	979478
The Side opposite substract	30	11	
The Sine of the difference	08	23	916374
The Sum			1999497
The Sine of the half Sum	83	51	999748½

The

Fig. 13:

The Complement of 83 d. 51 m. is 6 d. 09 m. the double thereof is 12 d. 18 m. the Angle at the Pole of the Earth L S N.

Here place the thirteenth Figure.

So is L N, the Magnetick Co-latitude 30 d. 11 m. and L S is the Co-latitude of *London* 38 d. 28 m. and S N, is the Magnetick Pole diftant from the Pole of the Earth 8 d. 30 m. fo that the Angle at the Pole of the Earth L S N, is found to be 12 d. 18 m. in the Meridian and Parallel of *London*, then fubftract 60 d. 00 m. from 12 d. 18 m. as in the cafe of *Ballafore.* That Mr. *Bond* faith the Magnetick Pole is from the Meridian of *London* ; and you have 6 d. 18 m. for the difference of Longitude in the Meridian of *London* ; whereas Mr. *Bond* faith *London* has no Longitude : See his Tables. So that Mr. *Bond* muft be under a very great miftake in making the Magnetick Inclination of

F 2 the

the Inclinatory Needle at *London*, to be in proportion, unto the Meridian of *London*, from whence Longitude shall begin at. When according to his own Observation by the Inclinatory Needle in *London*, with the Magnetical Colatitude in the Caroline Table, and the Co-latitude of *London*, and the distance of the Magnetick Pole, from the Pole of the Earth, *London* should have Longitude 6 *d.* 18 *m.* having given the Allowance Mr. *Bond* requires, as in the case of *Ballasore*.

The truth is the Inclination of the Inclinatory Needle, is not in proportion unto the Meridian of *London*, or any certain Meridian of the Earth, whereby the difference of the Meridians may be known by the Inclination of the Inclinatory Needle.

To sum up all; Mr. *Bond* pretends to find, what the Magnetick Meridian is gone to the Eastward, as in the case of *Ballasore*, by saying let the Angle WPN be 6 *d.* 00 *m.* that the Magnetick Pole is from the Meridian of *London*. Whereas the

the Angle W P N, according to the proportions of the Sides and Angles, contained in the Angles P. B N, is 37 *d.* 59 *m.* and not 6 *d.* 00 *m.* that the Magnetick Pole is gone to the Eastward of the Meridian of *London.* And the Angle W P B is 87 *d.* 13 *m.* and not 119 *d.* 12 *m.* by Journal.

Likewise it is proved, that all places in one and the same Meridian of the Earth, do alter their Angles at the Pole, from the Observations of the Inclinatory Needle, when according to truth all places, under one and the same Meridian of the Earth, should make one and the same Angle at the Pole, otherwise the difference of Meridians cannot be found.

Likewise it is proved from several places near unto the Meridian of *London*, and in the Meridian of *London*, that the Angles at the Pole of the Earth, is no way in proportion unto the Meridian of *London*, or that *London* is the Meridian from whence Longitude shall take its beginning in proportion to the Inclination of the Inclinatory Needle. So that the Inclination of the

In-

clinatory Needle is no way in proportion
unto any certain Meridian of the Earth,
from whence all Meridians should take their
Distance.

For these Reasons the Longitude cannot be found by the Inclinatory Needle.

Here

Here *follow* Mr. Bonds Caroline Tables *of the*
Complements of the Magnilatitudes *to eve-*
ry Five Minutes of Inclination *of the* In-
clinatory Needle, *from the* Magnequa-
tor *unto* 84 *d* 01 *m. of* Magnilatitude,
and 87 *d.* 00 *m. of* Inclination.

d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
0 05	89 58	2 35	38 43	5 05	87 27
0 10	89 55	2 40	88 40	5 10	87 25
0 15	89 53	2 45	88 38	5 15	87 22
0 20	89 50	2 50	88 35	5 20	87 20
0 25	89 48	2 55	88 32	5 25	87 17
0 30	89 45	3 00	88 30	5 30	87 15
0 35	89 42	3 05	88 28	5 35	87 12
0 40	89 40	3 10	88 25	5 40	87 10
0 45	89 38	3 15	88 22	5 45	87 07
0 50	89 35	3 20	83 20	5 50	87 05
0 55	89 33	3 25	88 18	5 55	87 02
1 00	89 30	3 30	88 15	6 00	87 00
1 05	89 28	3 35	88 13	6 05	86 57
1 10	89 25	3 40	88 10	6 10	86 55
1 15	89 23	3 45	88 08	6 15	86 52
1 20	89 20	3 50	88 05	6 20	86 50
1 25	89 18	3 55	88 03	6 25	86 47
1 30	89 15	4 00	88 00	6 30	86 45
1 35	89 13	4 05	87 57	6 35	86 42
1 40	89 10	4 10	87 55	6 40	86 40
1 45	89 08	4 15	87 53	6 45	86 37
1 50	89 05	4 20	87 50	6 50	86 35
1 55	89 03	4 25	87 48	6 55	86 32
2 00	89 00	4 30	87 45	7 00	86 29
2 05	88 58	4 35	87 42	7 05	86 27
2 10	88 55	4 40	87 40	7 10	86 24
2 15	88 53	4 45	87 37	7 15	86 21
2 20	88 50	4 50	87 35	7 20	86 19
2 25	88 48	4 55	87 32	7 25	86 16
2 30	88 45	4 00	87 30	7 03	86 14

G   7 35

d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
7 35	86 11	10 05	84 55	12 35	83 38
7 40	86 09	10 10	84 53	12 40	83 35
7 45	86 06	10 15	84 50	12 45	83 32
7 50	86 04	10 20	84 47	12 50	83 30
7 55	86 01	10 25	84 45	12 55	83 27
8 00	85 59	10 30	84 42	13 00	83 25
8 05	85 56	10 35	84 40	13 05	83 22
8 10	85 54	10 40	84 37	13 10	83 20
8 15	85 51	10 45	84 35	13 15	83 17
8 20	85 49	10 50	84 32	13 20	83 14
8 25	85 46	10 55	84 29	13 25	83 12
8 30	85 44	11 00	84 27	13 30	83 09
8 35	85 41	11 05	84 24	13 35	83 07
8 40	85 39	11 10	84 22	13 40	83 04
8 45	85 36	11 15	84 19	13 45	83 02
8 50	85 34	11 20	84 17	13 50	82 59
9 55	85 31	11 25	84 14	13 55	82 56
9 00	85 29	11 30	84 12	14 00	82 54
9 05	85 26	11 35	84 09	14 05	82 51
9 10	85 23	11 40	84 06	14 10	82 48
9 15	85 20	11 45	84 04	14 15	82 46
9 20	85 18	11 50	84 01	14 20	82 43
9 25	85 16	11 55	83 58	14 25	82 41
9 30	85 13	12 00	83 56	14 30	82 38
9 35	85 10	12 05	83 53	14 35	82 35
9 40	85 08	12 10	83 51	14 40	82 33
9 45	85 05	12 15	83 48	14 45	82 30
9 50	85 03	12 20	83 46	14 50	82 27
9 55	85 01	12 25	83 43	14 55	82 25
10 00	84 58	12 30	83 40	15 00	82 22

d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
15 05	82 20	17 35	81 00	20 05	79 38
15 10	82 17	17 40	80 57	20 10	79 36
15 15	82 14	17 45	80 54	20 15	79 33
15 20	82 12	17 50	80 52	20 20	79 30
15 25	82 09	17 55	80 49	20 25	79 28
15 30	82 06	18 00	80 46	20 30	79 25
15 35	82 04	18 05	80 44	20 35	79 22
15 40	82 01	18 10	80 41	20 40	79 19
15 45	81 58	18 15	80 38	20 45	79 16
15 50	81 56	18 20	80 35	20 50	79 14
15 55	81 53	18 25	80 33	20 55	79 11
16 00	81 50	18 30	80 30	21 00	79 08
16 05	81 48	18 35	80 27	21 05	79 05
16 10	81 45	18 40	80 25	21 10	79 03
16 15	81 43	18 45	80 22	21 15	79 00
16 20	81 40	18 50	80 19	21 28	78 58
16 25	81 37	18 55	80 17	21 25	78 55
16 30	81 35	19 00	80 14	21 30	78 52
16 35	81 32	19 05	80 11	21 35	78 48
16 40	81 29	19 10	80 08	21 40	78 45
16 45	81 26	19 15	80 06	21 45	78 42
16 50	81 24	19 20	80 03	21 50	78 40
16 55	81 21	19 25	80 00	21 55	78 37
17 00	81 19	19 30	79 58	22 00	78 35
17 05	81 16	19 35	79 55	22 05	78 32
17 10	81 13	19 40	79 52	22 10	78 29
17 15	81 10	19 45	79 49	22 15	78 26
17 20	81 08	19 50	79 47	22 20	78 23
17 25	81 05	19 55	79 44	22 25	78 21
17 30	81 03	10 00	79 41	22 30	78 18

22 35

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
22	35	78	15	25	05	76	50	27	35	75	22
22	40	78	12	25	10	76	47	27	40	75	19
22	45	78	10	25	15	76	44	27	45	75	16
22	50	78	07	25	20	76	41	27	50	75	13
22	55	78	04	25	25	76	38	27	55	75	10
23	00	78	01	25	30	76	35	28	00	75	07
23	05	77	58	25	35	76	32	28	05	75	04
23	10	77	55	25	40	76	29	28	10	75	01
23	15	77	53	25	45	76	26	28	15	74	58
23	20	77	50	25	50	76	24	28	20	74	55
23	25	77	47	25	55	76	21	28	25	74	52
23	30	77	44	26	00	76	18	28	30	74	49
23	35	77	41	26	05	76	15	28	35	74	46
23	40	77	39	26	10	76	12	28	40	74	43
23	45	77	36	26	15	76	09	28	45	74	40
23	50	77	33	26	20	76	06	28	50	74	36
23	55	77	30	26	25	76	03	28	55	74	33
24	00	77	27	26	30	76	00	29	00	74	30
24	05	77	24	26	35	75	57	29	05	74	27
24	10	77	21	26	40	75	52	29	10	74	24
24	15	77	18	26	45	75	51	29	15	74	21
24	20	77	15	26	50	75	48	29	20	74	18
24	25	77	13	26	55	75	45	29	25	74	15
24	30	77	10	27	00	75	42	29	30	74	12
24	35	77	07	27	05	75	39	29	35	74	09
24	40	77	04	27	10	75	36	29	40	74	06
24	45	77	01	27	15	75	34	29	45	74	03
24	50	76	58	27	20	75	31	29	50	74	00
24	55	76	55	27	25	75	28	29	55	73	57
25	00	76	52	27	30	75	25	30	00	73	54

d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
30 05	73 51	32 35	72 17	35 05	70 39
30 10	73 48	32 40	72 14	35 10	70 36
30 15	73 45	32 45	72 10	35 15	70 32
30 20	73 42	32 50	72 07	35 20	70 29
30 25	73 38	32 55	72 04	35 25	70 26
30 30	73 35	33 00	72 01	35 30	70 22
30 35	73 32	33 05	71 58	35 35	70 19
30 40	73 29	33 10	71 55	35 40	70 16
30 45	73 26	33 15	71 52	35 45	70 12
30 50	73 23	33 20	71 48	35 50	70 09
30 55	73 20	33 25	71 45	35 55	70 05
31 00	73 17	33 30	71 41	36 00	70 02
31 05	73 13	33 35	71 38	36 05	69 59
31 10	73 10	33 40	71 35	36 10	69 56
31 15	73 07	33 45	71 32	36 15	69 52
31 20	73 04	33 50	71 28	36 20	69 49
31 25	73 01	33 55	71 25	36 25	69 45
31 30	72 58	34 00	71 22	36 30	69 42
31 35	72 55	34 05	71 18	36 35	69 38
31 40	72 52	34 10	71 15	36 40	69 35
31 45	72 49	34 15	71 12	36 45	69 32
31 50	72 45	34 20	71 09	36 50	69 28
31 55	72 42	34 25	71 05	36 55	69 25
32 00	72 39	34 30	71 02	37 00	69 21
32 05	72 36	34 35	70 59	37 05	69 18
32 10	72 33	34 40	70 56	37 10	69 14
32 15	72 29	34 45	70 52	37 15	69 11
32 20	72 26	34 50	70 49	37 20	69 07
32 25	72 23	34 55	70 46	37 25	69 04
32 30	72 20	35 00	70 42	37 30	69 01

37 35

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
37	35	68	57	40	05	67	10	42	35	65	19
37	40	68	54	40	10	67	06	42	40	65	15
37	45	68	50	40	15	67	03	42	45	65	12
37	50	68	47	40	20	67	00	42	50	65	08
37	55	68	43	40	25	66	56	42	55	65	04
38	00	68	40	40	30	66	53	43	00	65	00
38	05	68	36	40	35	66	49	43	05	64	56
38	10	68	33	40	40	66	45	43	10	64	53
38	15	68	29	40	45	66	42	43	15	64	49
38	20	68	26	40	50	66	38	43	20	64	45
38	25	68	22	40	55	66	34	43	25	64	41
38	30	68	19	41	00	66	30	43	30	64	37
38	35	68	15	41	05	66	27	43	35	64	33
38	40	68	12	41	10	66	23	43	40	64	29
38	45	68	08	41	15	66	20	43	45	64	25
38	50	68	05	41	20	66	16	43	50	64	21
38	55	68	01	41	25	66	12	43	55	64	17
39	00	67	57	41	30	66	08	44	00	64	14
39	05	67	54	41	35	66	04	44	05	64	10
39	10	67	50	41	40	66	01	44	10	64	06
39	15	67	47	41	45	65	57	44	15	64	02
39	20	67	43	41	50	65	53	44	20	63	58
39	25	67	40	41	55	65	50	44	25	63	54
39	30	67	36	42	00	65	46	44	30	63	50
39	35	67	33	42	05	65	42	44	35	63	46
39	40	67	29	42	10	65	38	44	40	63	42
39	45	67	26	42	15	65	34	44	45	63	38
39	50	67	22	42	20	65	31	44	50	63	34
39	55	67	18	42	25	65	27	44	55	63	30
40	00	67	14	42	30	65	23	45	00	63	26

d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
45 05	63 22	47 35	61 19	50 05	59 08
45 10	63 18	47 40	61 14	50 10	59 04
45 15	63 14	47 45	61 10	50 15	58 50
45 20	63 10	47 50	61 06	50 20	58 55
45 25	63 06	47 55	61 02	50 25	58 50
45 30	63 02	48 00	60 57	50 30	58 46
45 35	62 58	48 05	60 53	50 35	58 41
45 40	62 54	48 10	60 49	50 40	58 37
45 45	62 50	48 15	60 44	50 45	58 32
45 50	62 46	48 20	60 40	50 50	58 27
45 55	62 42	48 25	60 36	50 55	58 23
46 00	62 38	48 30	60 32	51 00	58 18
46 05	62 34	48 35	60 27	51 05	58 14
46 10	62 30	48 40	60 23	51 10	58 09
46 15	62 25	48 45	60 19	51 15	58 05
46 20	62 21	48 50	60 14	51 20	58 00
46 25	62 17	48 55	60 10	51 25	57 56
46 30	62 14	49 00	60 06	51 30	57 51
46 35	62 09	49 05	60 01	51 35	57 46
46 40	62 05	49 10	59 59	51 40	57 41
46 45	62 00	49 15	59 52	51 45	57 37
46 50	61 56	49 20	59 48	51 50	57 32
46 55	61 52	49 25	59 44	51 55	57 28
47 00	61 48	49 30	59 39	52 00	57 23
47 05	61 44	49 35	59 35	52 05	57 18
47 10	61 40	49 40	59 30	52 10	57 14
47 15	61 35	49 45	59 26	52 15	75 09
47 20	61 31	49 50	59 22	52 20	57 04
47 25	61 27	49 55	59 17	52 25	56 59
47 30	61 23	50 00	59 13	52 30	56 55

d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
52 35	56 50	55 05	54 23	57 35	51 47
52 40	56 45	55 10	54 18	57 40	51 42
52 45	56 40	55 15	54 13	57 45	51 36
52 50	56 36	55 20	54 08	57 50	51 31
52 55	56 31	55 25	54 03	57 55	51 26
53 00	56 26	55 30	53 58	58 00	51 20
53 05	56 21	55 35	53 53	58 05	51 15
53 10	56 16	55 40	53 48	58 10	51 09
53 15	56 12	55 45	53 43	58 15	51 04
53 20	56 07	55 50	53 37	58 20	50 58
53 25	56 02	55 55	53 32	58 25	50 53
53 30	55 57	55 00	53 27	58 30	50 47
53 35	55 52	56 05	53 22	58 35	50 42
53 40	55 47	56 10	53 17	58 40	50 36
53 45	55 43	56 15	53 12	58 45	50 31
53 50	55 38	56 20	53 06	58 50	50 25
53 55	55 33	56 25	53 01	58 55	50 20
54 00	55 28	56 30	52 56	59 00	50 14
54 05	55 23	56 35	52 51	59 05	50 09
54 10	55 18	56 40	52 45	59 10	50 08
54 15	55 13	56 45	52 40	59 15	49 57
54 20	55 08	56 50	52 35	59 20	49 53
54 25	55 03	56 55	52 30	59 25	49 46
54 30	55 58	57 00	52 24	59 30	49 40
54 35	54 53	57 05	52 19	59 35	49 35
54 40	54 48	57 10	52 14	59 40	49 29
54 45	54 43	57 15	52 09	59 45	49 24
54 50	54 38	57 20	52 03	59 50	49 18
54 55	54 33	57 25	51 58	59 55	49 12
55 00	54 28	57 30	51 52	60 00	49 06

60 05

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
60	05	49	01	62	35	46	03	65	05	42	54
60	10	48	55	62	40	45	57	65	10	42	47
60	15	48	49	62	45	45	51	65	15	42	41
60	20	48	43	62	50	45	45	65	20	42	34
60	25	48	38	62	55	45	39	65	25	42	27
60	30	48	32	63	00	45	32	65	30	42	21
60	35	48	26	63	05	45	26	65	35	42	14
60	40	48	20	63	10	45	20	65	40	42	08
60	45	48	14	63	15	45	14	65	45	42	01
60	50	48	09	63	20	45	07	65	50	41	54
60	55	48	03	63	25	45	01	65	55	41	48
61	00	47	57	63	30	44	55	66	00	41	41
61	05	47	51	63	35	44	49	66	05	41	34
61	10	47	45	63	40	44	42	66	10	41	28
61	15	47	39	63	45	44	36	66	15	41	21
61	20	47	33	64	50	44	30	66	20	41	14
61	25	47	27	64	55	44	24	66	25	41	07
61	30	47	21	64	00	44	17	66	30	41	01
61	35	47	16	64	05	44	11	66	35	40	54
61	40	47	10	64	10	44	05	66	40	40	47
61	45	47	04	64	15	43	58	66	45	40	40
61	50	46	58	64	20	43	52	66	50	40	33
61	55	46	52	64	25	43	45	66	55	40	26
62	00	46	46	64	30	43	39	67	00	40	20
62	05	46	39	64	35	43	33	67	05	40	13
62	10	46	34	64	40	43	26	67	10	40	06
62	15	46	28	64	45	43	20	67	15	39	59
62	20	46	21	64	50	43	13	67	20	39	52
62	25	46	15	64	55	43	07	67	25	39	46
62	30	46	09	65	00	43	00	67	30	39	38

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67 35

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
67	35	39	32	70	05	35	56	72	35	32	06
67	40	39	24	70	10	35	48	72	40	31	58
67	45	39	17	70	15	35	41	72	45	31	51
67	50	39	10	70	20	35	33	72	50	31	43
67	55	39	03	70	25	35	26	72	55	31	35
68	00	38	56	70	30	35	18	73	00	31	27
68	05	38	49	70	35	35	11	73	05	31	19
68	10	38	42	70	40	35	03	73	10	31	11
68	15	38	35	70	45	34	56	73	15	31	03
68	20	38	28	70	50	34	48	73	20	30	55
68	25	38	21	70	55	34	41	73	25	30	47
68	30	38	14	71	00	34	33	73	30	30	39
68	35	38	07	71	05	34	26	73	35	30	31
68	40	38	00	71	10	34	18	73	40	30	22
68	45	37	52	71	15	34	11	73	45	30	14
68	50	37	45	71	20	34	03	73	50	30	06
68	55	37	38	71	25	33	55	73	55	29	58
69	00	37	32	71	30	33	47	74	00	29	50
69	05	37	24	71	35	33	40	74	05	29	42
69	10	37	16	71	40	33	32	74	10	29	34
69	15	37	09	71	45	33	24	74	15	29	26
69	20	37	02	71	50	33	16	74	20	29	18
69	25	36	54	71	55	33	09	74	25	29	10
69	30	36	47	72	00	33	01	74	30	29	01
69	35	36	40	72	05	32	53	74	35	28	53
69	40	36	32	72	10	32	45	74	40	28	44
69	45	36	25	72	15	32	38	74	45	28	36
69	50	36	18	72	20	32	30	74	50	28	28
69	55	36	10	72	25	32	22	74	55	28	20
70	00	36	03	72	30	32	14	75	00	28	11

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
75	05	28	03	77	35	23	46	80	05	19	16
75	10	27	55	77	40	23	37	80	10	19	07
75	15	27	46	77	45	23	28	80	15	18	58
75	20	27	38	77	50	23	20	80	20	18	49
75	25	27	29	77	55	23	11	80	25	18	49
75	30	27	21	78	00	23	02	80	30	18	30
75	35	27	12	78	05	22	53	80	35	18	21
75	40	27	04	78	10	22	44	80	40	18	12
75	45	26	56	78	15	22	35	80	45	18	03
75	50	26	47	78	20	22	26	80	50	17	53
75	55	26	39	78	25	22	17	80	55	17	44
76	00	26	30	78	30	22	08	81	00	17	35
76	05	26	22	78	35	21	59	81	05	17	25
76	10	26	13	78	40	21	51	81	10	17	16
76	15	26	05	78	45	21	41	81	15	17	07
76	20	25	56	78	50	21	33	81	20	16	57
76	25	25	47	78	55	21	24	81	25	16	48
76	30	25	39	79	00	21	15	81	30	16	38
76	35	25	30	79	05	21	06	81	35	16	29
76	40	25	22	79	10	20	57	81	40	16	20
76	45	25	13	79	15	20	47	81	45	16	10
76	50	25	04	79	20	20	38	81	50	16	01
76	55	24	56	79	25	20	29	81	55	15	52
77	00	24	47	79	30	20	20	82	00	15	42
77	05	24	38	79	35	20	11	82	05	15	33
77	10	24	30	79	40	20	02	82	10	15	23
77	15	24	21	79	45	19	53	82	15	15	14
77	20	24	12	79	50	19	44	82	20	15	04
77	25	24	03	79	55	19	35	82	25	14	55
77	30	23	55	80	00	19	26	82	30	14	45

82 35

d.	m.	d.	m.	d.	m.	d.	m.	d.	m.	d.	m.
82	35	14	36	84	05	11	43	85	35	08	47
82	40	14	26	84	10	11	33	85	40	08	37
82	45	14	17	84	15	11	23	85	45	08	27
82	50	14	07	84	20	11	13	85	50	08	17
82	55	13	58	84	25	11	04	85	55	08	07
83	00	13	48	84	30	10	55	86	00	07	58
83	05	13	39	84	35	10	44	86	05	07	48
83	10	13	29	84	40	10	34	86	10	07	38
83	15	13	19	84	45	10	24	86	15	07	28
83	20	13	10	84	50	10	14	86	20	07	18
83	25	13	00	84	55	10	05	86	25	07	08
83	30	12	50	85	00	09	55	86	30	06	59
83	35	12	40	85	05	09	46	86	35	06	49
83	40	12	31	85	10	09	36	86	40	06	39
83	45	12	21	85	15	09	26	86	45	06	29
83	50	12	12	85	20	09	16	86	50	06	19
83	55	12	02	85	25	09	06	86	55	06	09
84	00	11	52	85	30	08	57	87	00	05	59

A Table *of the* Latitude, Longitude, *and the* Inclination *of the* Inclinatory Magnetical Needle, *in some of the most eminent Places of the World, in* 1676.

d. m.

		d	m	
Japan,	Latitude	038	00	North.
	Longitude	143	20	East.
	Inclination	063	53	North.
Bantam,	Latitude	006	15	North.
	Longitude	120	50	East.
	Inclination	022	53	North.
Malacca,	Latitude	006	41	North.
	Longitude	120	50	East.
	Inclination	005	42	North.
The North end of Sumatra,	Latitude	005	28	North.
	Longitude	111	15	East.
	Inclination	001	44	North.
The River of Bengale,	Latitude	022	09	North.
	Longitude	116	09	East.
	Inclination	031	09	North.

Cape

		d.	m.	
Cape Canoim,	Latitude	07	50	North.
	Longitude	92	15	Eaſt.
	Inclination	11	23	North.
Suratt,	Latitude	21	00	North.
	Longitude	94	12	Eaſt.
	Inclination	33	43	North.
The South end of St. Law-rence,	Latitude	25	37	South.
	Longitude	55	30	Eaſt.
	Inclination	39	10	South.
The Cape of Good Hope,	Latitude	35	30	South.
	Longitude	27	30	Eaſt.
	Inclination	47	38	South.
St. Elena,	Latitude	16	03	South.
	Longitude	04	44	Eaſt.
	Inclination	15	29	South.
St. Elena Nov.	Latitude	16	03	South.
	Longitude	14	24	Eaſt.
	Inclination	16	23	South.

Sampſon's

		d. m.	
Sampson's River,	Latitude	04 22	North.
	Longitude	30 28	East.
	Inclination	22 09	North.
Old Caliber,	Latitude	04 50	North.
	Longitude	19 51	East.
	Inclination	23 09	North.
New Caliber,	Latitude	04 40	North.
	Longitude	18 12	East.
	Inclination	23 06	North.
River of Gambo,	Latitude	12 47	North.
	Longitude	07 41	West.
	Inclination	37 54	North.
Cape de Verd,	Latitude	14 25	North.
	Longitude	12 21	West.
	Inclination	58 28	North.
Tangier,	Latitude	35 36	North.
	Longitude	03 35	West.
	Inclination	62 39	North.

Gibralter,

		d. m.	
Gibralter,	Latitude	36 40	North.
	Longitude	03 18	West.
	Inclination	03 29	North.
Malago,	Latitude	36 45	North.
	Longitude	02 17	West.
	Inclination	63 33	North.
Alegant,	Latitude	38 20	North.
	Longitude	01 50	East.
	Inclination	65 10	North.
Leagorn,	Latitude	43 28	North.
	Longitude	12 39	East.
	Inclination	68 01	North.
Galipolie,	Latitude	40 08	North.
	Longitude	21 40	East.
	Inclination	65 03	North.
Rome,	Latitude	41 50	North.
	Longitude	15 45	East.
	Inclination	66 43	North.

Naples ,

		d. m.	
Naples,	Latitude	41 08	North.
	Longitude	17 27	East.
	Inclination	66 05	North.
Venice,	Latitude	45 37	North.
	Longitude	17 21	East.
	Inclination	69 17	North.
Constantinople,	Latitude	40 56	North.
	Longitude	35 09	East.
	Inclination	64 35	North.
Alexandria,	Latitude	30 40	North.
	Longitude	36 04	East.
	Inclination	55 39	North.
Tunis,	Latitude	36 30	North.
	Longitude	03 54	East.
	Inclination	63 05	North.
Argier,	Latitude	36 40	North.
	Longitude	05 30	
	Inclination	63 14	North.

I *Middle*

		d.	m.	
Middle of Cyprus	Latitude	34	18	North.
	Longitude	37	45	
	Inclination	58	54	North.
Middle of Candia ,	Latitude	35	08	North.
	Longitude	28	32	East.
	Inclination	60	29	North.
Middle of Corsica ,	Latitude	42	05	North.
	Longitude	11	43	East.
	Inclination	67	08	North.
Middle of Scifilia ,	Latitude	37	42	North.
	Longitude	16	45	East.
	Inclination	63	26	North.
Maiyork ,	Latitude	39	38	North.
	Longitude	05	48	East.
	Inclination	65	32	North.
Cales ,	Latitude	36	22	North.
	Longitude	04	00	West.
	Inclination	63	16	North.

Lisbon

		d. m.	
	Latitude	39 08	North.
Lisbon,	Longitude	06 30	West.
	Inclination	65 28	North.
	Latitude	43 10	North.
Cape Finister,	Longitude	08 19	West.
	Inclination	69 07	North.
	Latitude	45 10	North.
Burdeaux,	Longitude	00 20	East.
	Inclination	69 26	North.
	Latitude	46 17	North.
Rochell,	Longitude	00 30	West.
	Inclination	70 27	North.
	Latitude	47 41	North.
Nants,	Longitude	01 09	West.
	Inclination	71 27	North.
	Latitude	49 30	North.
Jarzey,	Longitude	01 00	West.
	Inclination	71 34	North.

I 2   *Garnzey,*

		d.	m.	
Garnzey,	Latitude	49	43	North.
	Longitude	02	35	West.
	Inclination	72	41	North.
Callice,	Latitude	51	13	North.
	Longitude	01	52	East.
	Inclination	73	34	
Antwerp.	Latitude	51	37	North.
	Longitude	04	37	East.
	Inclination	73	48	North.
Amsterdam,	Latitude	52	40	North.
	Longitude	04	37	East.
	Inclination	74	22	North.
Hamborough,	Latitude	54	04	North.
	Longitude	08	02	East.
	Inclination	75	05	North.
Copenhagen,	Latitude	56	17	North.
	Longitude	09	54	East.
	Inclination	76	18	North.

Elsenore,

		d. m.	
Elsenore ,	Latitude	56 40	North.
	Longitude	09 57	East.
	Inclination	76 33	North.
Gotland ,	Latitude	58 20	North.
	Longitude	15 58	East.
	Inclination	77 14	North.
Cape Blanco , **in New-found** **Land ,**	Latitude	51 32	North.
	Longitude	51 00	West.
	Inclination	72 24	North.
Trinity Bay ,	Latitude	55 54	North.
	Longitude	54 28	West.
	Inclination	70 32	North.

In the Sound.

Shorham ,	Latitude	58 58	North.
	Longitude	21 06	East.
	Inclination	77 48	
Stockholm ,	Latitude	58 49	North.
	Longitude	14 42	East.
	Inclination	77 42	North.

Scarlet

                                        d. m.

Scarlet Island, { Latitude   56 40 North.
                { Longitude   10 38 East.
                { Inclination 76 31 North.

Long Sound ,   { Latitude   58 07 North.
               { Longitude   07 30 East.
               { Inclination 77 28 North.

Naze of Nor-   { Latitude   58 00 North.
way ,   { Longitude   05 00 East.
               { Inclination 77 29 North.

Cats Ness ,   { Latitude   61 54 North.
               { Longitude   02 42 East.
               { Inclination 79 43 North.

North Cape of { Latitude   71 22 North.
Finmark,   { Longitude   16 42 East.
               { Inclination 84 09 North.

Archangel,   { Latitude   63 22 North.
               { Longitude   21 22 East.
               { Inclination 79 27 North.

Cape

		d. m.	
Cape Blanco, in New-found Land,	Latitude	37 32	North.
	Longitude	39 36	West.
	Inclination	72 24	North.
Trinity Bay,	Latitude	48 55	North.
	Longitude	54 28	West.
	Inclination	70 32	North.
Cape Razo,	Latitude	46 28	North.
	Longitude	51 54	West.
	Inclination	69 05	North.
Cape Cod, in New England,	Latitude	42 20	North.
	Longitude	66 56	West.
	Inclination	64 44	North.
Boston,	Latitude	43 38	North.
	Longitude	70 00	West.
	Inclination	64 57	North.
New Plymouth,	Latitude	42 08	North.
	Longitude	68 01	West.
	Inclination	64 32	North.

Cape

		d. m.	
Cape Charles, in Virginia,	Latitude	37 39	North.
	Longitude	70 00	West.
	Inclination	60 00	North.
Trinity Harbour.	Latitude	36 00	North.
	Longitude	68 30	West.
	Inclination	59 26	North.
Bermudas,	Latitude	23 20	North.
	Longitude	54 36	West.
	Inclination	57 41	North.
New Island of Providence,	Latitude	25 25	North.
	Longitude	70 00	West.
	Inclination	48 39	North.
Hispaniola,	Latitude	18 50	North.
	Longitude	70 22	West.
	Inclination	40 23	North.
Cuba,	Latitude	22 00	North.
	Longitude	81 20	West.
	Inclination	24 37	North.

Barbados,

		d.	m.	
Barbados,	Latitude	13	10	North.
	Longitude	58	24	West.
	Inclination	34	21	North.
Jamaica,	Latitude	18	15	North.
	Longitude	78	21	West.
	Inclination	38	04	North.
Suranam,	Latitude	05	55	North.
	Longitude	55	16	West.
	Inclination	23	01	North.

In Ireland

		d.	m.	
Dublin,	Latitude	53	32	North.
	Longitude	07	20	West.
	Inclination	75	08	North.
Wexford,	Latitude	52	33	North.
	Longitude	07	08	West.
	Inclination	74	31	North.
Waterford,	Latitude	52	30	North.
	Longitude	07	48	West.
	Inclination	74	30	North.

K   *Cork,*

		d. m.	
Cork,	Latitude	51 10	North.
	Longitude	08 20	West.
	Inclination	73 32	North.
Kings Sail,	Latitude	51 52	North.
	Longitude	08 32	West.
	Inclination	74 07	North.
Old Head of Kings Sail,	Latitude	51 40	North.
	Longitude	08 38	West.
	Inclination	74 00	North.
The Blaskets,	Latitude	52 15	North.
	Longitude	11 35	West.
	Inclination	74 22	North.
Lymbrick,	Latitude	53 04	North.
	Longitude	10 15	West.
	Inclination	74 51	North.
Galloway,	Latitude	53 40	North.
	Longitude	10 40	West.
	Inclination	75 13	North.

In Scotland.

d. m.

Leith, {
Latitude   56 03 North.
Longitude 03 15 Weſt.
Inclination 76 33 North.

Aberdeen, {
Latitude   57 42 North.
Longitude 02 55 Weſt.
Inclination 77 18 North.

Iſles of Orkney, {
Latitude   58 50 North.
Longitude 03 22 Weſt.
Inclination 77 35 North.

In England.

Barwick, {
Latitude   55 49 North.
Longitude 02 45 Weſt.
Inclination 76 24 North.

Weſtcheſter, {
Latitude   53 37 North.
Longitude 04 20 Weſt.
Inclination 75 09 North.

K 2   New

		d.	m.	
Newcastle,	Latitude	54	58	North.
	Longitude	02	10	Weſt.
	Inclination	75	53	North.
Gloceſter,	Latitude	52	03	North.
	Longitude	02	45	Weſt.
	Inclination	74	15	North.
Briſtol,	Latitude	51	32	North.
	Longitude	02	50	Weſt.
	Inclination	73	51	North.
The Lands end,	Latitude	50	20	North.
	Longitude	05	58	Weſt.
	Inclination	73	10	North.
The Lizard,	Latitude	50	10	North.
	Longitude	05	24	Weſt.
	Inclination	73	02	North.
Plymouth,	Latitude	50	36	North.
	Longitude	04	33	Weſt.
	Inclination	73	17	North.

		d. m.	
Portsmouth ,	Latitude	51 08	North.
	Longitude	01 00	West.
	Inclination	72 52	North.
Dover,	Latitude	51 25	North.
	Longitude	01 00	East.
	Inclination	73 41	North.
London ,	Latitude	51 32	North.
	Longitude	00 00	
	Inclination	73 47	North.

To prove the Earth the Centure of the Starry Heaven, and not to have any Inclination towards the Poles, as Copernicus *would have it.*

THe Earth by obfervation keeps its Parallels with the Starry Heaven all the year, without alteration; for by obfervation, that Star that is in the Equinoctial part of the Heaven, is always in the Equinoctial part of the Earth; fo likewife, take all the Stars in their feveral Parallels to the Poles from the Equinoctial, and you will find they keep their Parallels with the Earth for ever.

We need not go to the Equinoctial part of the Earth

Earth, to prove the Earth to keep her Parallels with the Equinoctial part of the Starry Heaven: For, observe in this Parallel or Latitude of *London* 51 *d.* 30 *m.* the Amplitude of any Star in the Equinoctial, either upon his Rising or Setting, and you shal find his Amplitude to be East or West of you for ever, in this Parallel or any other.

Likewise observe the Meridian Altitude of any Star in the Equinoctial, in this Parallel or Latitude 51 *d.* 30 *m.* and you shall find his Meridian Altitude to be the Elevation of the Equinoctial for ever, in this Parallel or Latitude.
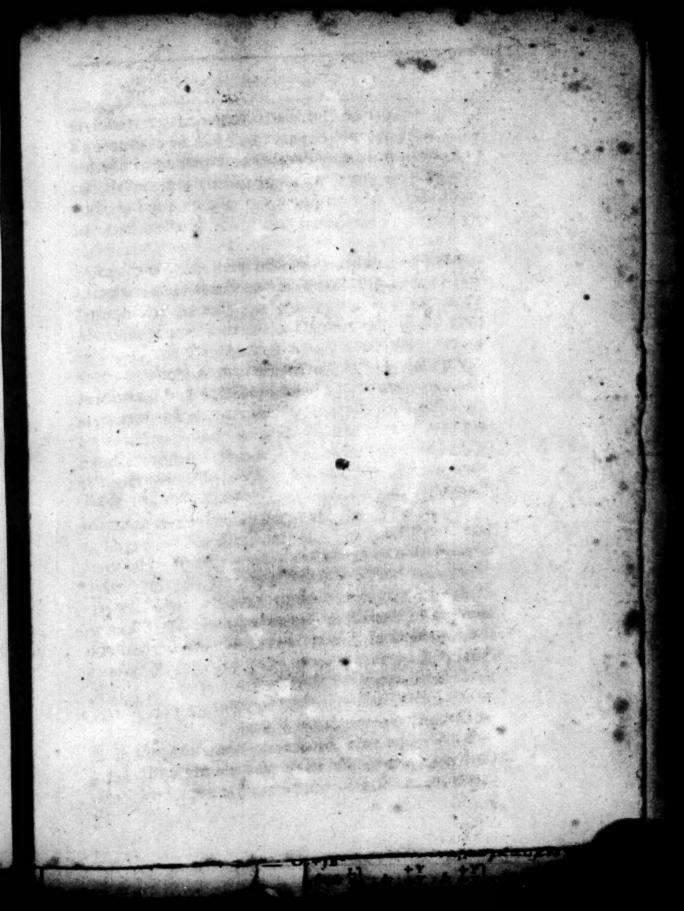
And by daily observations we find the Sun to alter his Amplitude, and Meridian Altitudes, and Parallels with the Starry Heaven and Earth. And we find the Starry Heaven to keep his Parallels with the Earth always, in regard the Stars keep their Meridian Altitudes and Amplitudes with the Earth, without alteration.
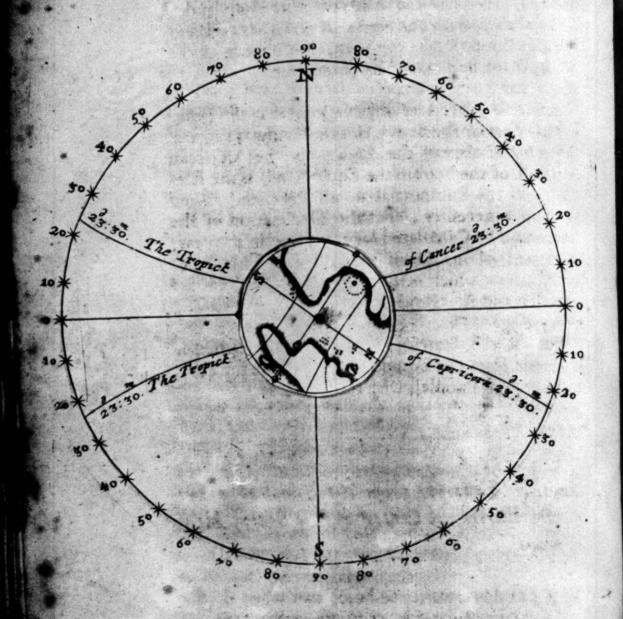
But if we should admit the Sun the Center of the Starry Heaven, and the Earth should have her Declination towards her Poles; then the Sun must be always in the Equinoctial part of the Starry Heaven; and the Sun must have the same Amplitudes, and Meridian Altitudes, with the Stars in the Equinoctial; in all Parallels: And then the Sun, and all the Stars in Heaven, should have a daily Calculation of the Declination of the Earth, as the Earth shall alter her Parallels, by Inclining or Declining towards her Poles.

But it is proved by observation, that the Sun doth not keep his Parallels with the Starry Heaven, therefore the Sun cannot be the Center of the Starry

ry

The Tropick of Cancer 23:30

The Tropick of Capricorn 23:30

ry Heaven; in regard the Sun is not always in the
Equinoctial part of that Heaven, and the Sun hath
not the same Meridian Altitude, and Amplitude,
and Parallel, with the Starry Heaven in the Equi-
noctial, but twice in the year, and that is as the
Sun Inclines and Declines from one Tropick to
another.

And it is proved by observation, that the Equi-
noctial part of the Starry Heaven is always in the
Equinoctial part of the Earth, for the Meridian
Altitude of the Stars in the Equinoctial, is the Ele-
vation of the Equinoctial in all Parallels. Now
there is a necessity, that the Declination of the
Sun should be Calculated for every day in the year,
in regard of his Declination towards his Pole,
23 *d*. 30 *m*. which is the cause the Sun alters his
Parallels and Amplitudes, and Meridian Altitudes,
every day.

But for the Starry Heaven, its Declination or
Distance from the Equinoctial is the same for ever,
and keeps it Parallels with the Earth.

Another Example from the Sun, to prove
the Earth the Center of the Starry Hea-
ven.

MOst *Mathematicians* hold, that when the Sun
is depressed below the Horizon 15 Degrees,
that Twylight appears upon the Horizon; the
proof

proof of which is very sutable in this Parallel or Latitude: *Example : London*, Latitude 51 *d.* 30 *m.* North, the Suns Declination 23 *d.* 30 *m.* North, the Suns Depression 15 *d.* 00 *m.* I demand the Time of Twylight ? So by the Work you will find the Sun Depressed 15 Degrees at Midnight ; the 11*th.* day of *June,* so that you will have Twylight appear in the North all Night: At which time we find by Observation in the Equinoctial, & in this Parallel, the Sun to be distant from the North Pole 66 *d.* 30 *m.* Now if the Sun was the Center of the Starry Heaven, the Sun would be always distant from the Poles 90 Degrees, as the Stars in the Equinoctial are, and as the Sun is the 10*th.* day of *March,* or the 10*th.* day of *September,* when he is in the Equinoctial.

Much more may be said ; but supposing here's enough to prove the Earth the Center of the Starry Heaven : And I am certain there's no Observato be made from Heaven, to prove the Earth hath any Motion at all.

The Terrestrial Sphere that is moveable, shews, that if the Earth should move (as *Copernicus* would have it) then there is a necessity the Earth should alter her Parallels with the Starry Heaven : For if you move the Equinoctial part of the Earth upon its Polar Line to either Tropick, it shows you to alter 23 *d.* 30 *m.* of your Parallel from the Equinoctial part of the Starry Heaven.

FINIS.